



TILEmpower-Gx72 FR Platform

The TILEmpower-Gx72™ FR platform is a robust and feature-rich 1U rackmount platform based on the industry-leading TILE-Gx72™ with its massive computing power. The platform is ideally suited for applications and deployments where programmability, security, and high-availability is key.

Comprehensive Feature Set

The TILEmpower-Gx72 FR platform comes with fully redundant hot-swappable power supplies and field-replaceable fan trays, enabling highly reliable operations for mission-critical environments. In addition, the platform hardware design is FIPS 140-2 ready, enabling fast time to market for security based applications. A rich set of high-speed I/O ports complement the 72 cores of processing, providing impressive communications and computing power in a single 1U chassis.

The CPU module houses the processor together with its essential support components, including power regulators, DDR3 memory, boot ROMs, control and reset logic, and debug I/O ports. All of the packet I/O, PCIe I/O, and GPIO ports are brought through connectors to the motherboard where they are distributed to the various peripherals and I/O ports.

High-speed I/O is incorporated through a plug-in I/O module, allowing high-speed Ethernet interfaces (1G, 10G) to be installed and connected to the TILE-Gx™ processor. The PCI Express expansion connector supports up to eight lanes of PCIe and can support add-in cards such as InfiniBand, FiberChannel, or other specialty I/O offerings, as well as FPGA developer cards for experimenting with tailored I/Os or co-processing functions.

Integrated remote management allows flexibility in location and monitoring. An independent Baseboard Management Controller (BMC) supports remote reset or re-boot, allowing the server to be located in a lab or server room. The BMC enables remote monitoring of power supply voltages and currents, processor die temperature, fan status, and more.



HIGHLIGHTS

BENEFITS

- Features a 72-core processor
- FIPS 140-2 ready
- High-speed I/O ports

TYPICAL USER APPLICATIONS

The TILEmpower-Gx72 FR Platform is ideal for a variety of computing and I/O-intensive tasks such as:

- A platform for TILE-Gx software development
- Network monitoring
- A software programmable platform for packet processing on high availability hardware
- Security and computation intensive applications with DPI, SSL, IPsec and/or IDS/IPS on FIPS 140-2 ready hardware

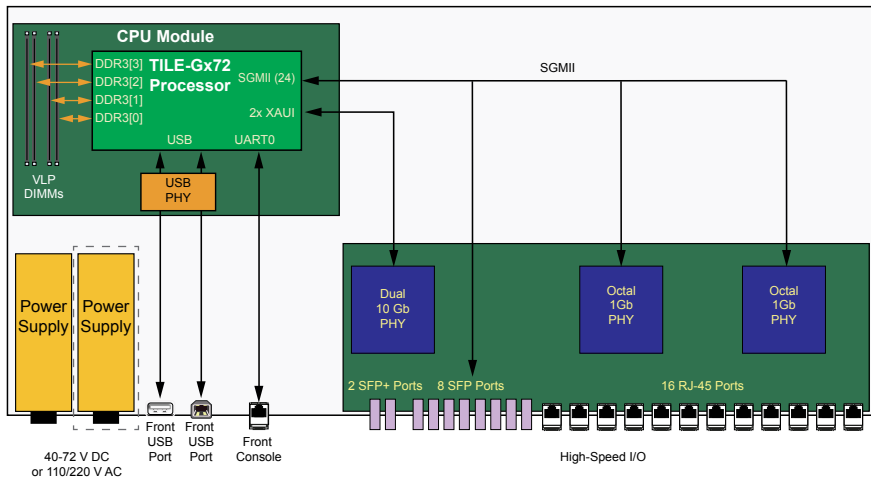


Figure 1. TILEmpower-Gx72 MP Platform Block Diagram

SPECIFICATIONS

GENERAL

- 19" rack chassis, 1RU height
- RoHS-6 compliant per EU 2002/95/EC

PROCESSOR SUPPORT

- Supports TILE-Gx72 processors with 72 cores @ 1.2 GHz and 23MB cache

MEMORY SUPPORT

- Four DIMM sockets on each processor module with a capacity of 8 GB per module for a total of 32 GB
- DDR3 Very Low Profile (VLP) DIMMs
- Supports RDIMM or UDIMM with ECC

HIGH-SPEED I/O

Pluggable I/O modules:*

- Octal 10G/1G with SFP+/SFP interfaces

MISCELLANEOUS I/O

- One RS-232 UART port to TILE-Gx processor (rear panel)
- One RS-232 UART port to BMC (rear panel)
- One USB 2.0 port, type B endpoint (front panel)
- One USB 2.0 port, type A host (internal)
- Dual 1 Gbps SFP ports (driven from the TILE-Gx processor via PCIe to the dual-channel NIC device)

EXPANSION PCIE CARD

- Internal 8-lane PCIe Gen2 slot
- Accepts full-height, short length card using included right-angle riser (replacing high-speed I/O Module)

MASS STORAGE

- Internal 240 GB mSATA solid state drive
- Internal SATA disc drive: SSD or rotating, 2.5" (optional)

OTHER FEATURES

- Battery-backed Real-Time Clock (RTC)
- 256 Kb I²C ROM
- 16 MB SPI ROM
- IPMI measurement of regulated system voltages and current draw

SECURITY FEATURES

- FIPS 140-2 level 3 ready hardware
- Integrated Maxim Security Manager IC with secure key memory
- Battery backed-up cover tamper detection
- Multiple physical intrusion sensors

POWER

- Integrated Redundant AC Power Supplies: 180/240 VAC, 50/60 Hz
- Power Dissipation (typical): 140 W
- Cooling:
 - Redundant field-replaceable fan trays. Standard rear to front airflow.
 - Tachometer feedback for fan fail detection.

ENVIRONMENTAL

- Operating temperature: 0 to 40° C
- Storage temperature: -40° to 70° C
- Humidity: 10% to 90% RH, non-condensing

PHYSICAL SPECIFICATIONS

- Box height: 1.7" (4.3 cm)
- Box length: 22.25" (56.6 cm)
- Box width: 17" (43.3 cm)
- Weight: 23.0 lbs (10.4 kg)

INCLUDED ACCESSORIES

- Sliding rack mount rail kit
- PCIe riser adapter for internal PCIe card
- Serial console adapter and cable

CUSTOMER PROVIDED ACCESSORIES

- SFP and SFP+ cartridges for Ethernet I/O
- Ethernet interface cables
- PCIe card (optional)
- SATA memory card (optional)

COMPLIANCE

- RoHS-6 compliant per EU 2002/95/EC

*Contact Mellanox for availability of other high-speed I/O modules.

Ordering Part Number	Processor	Processor Frequency	Memory Installed	MiCA Crypto	I/O Interfaces	Drives Installed
TLB4-07280-10-RM1US-8S10-32-240HD-FR-E	TILE-Gx8072	1.2 GHz	32 GBytes	Yes	Eight 1G/10G SFP/SFP+ ports	240 GB mSATA



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085
 Tel: 408-970-3400 • Fax: 408-970-3403
www.mellanox.com